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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Hirohito Suda

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06/16/2005

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
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ALEXANDRIA, VA 22314

EXAMINER

CASCA, FRED A

ART UNIT

PAPER NUMBER

2687

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/654,961	SUDA ET AL.	
	Examiner	Art Unit	
	Fred A. Casca	2687	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09/05/2003</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Objections

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Drawings

2. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3 and 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Pombo et al., U.S. Patent No. 5,799,256.

Referring to claim 1, Pombo discloses a mobile terminal (Abstract, FIG. 1, and col. 2, lines 52-67, "a portable communication device (104)") comprising a transmitter/receiver configured to transmit/receive a signal to/from a base station (FIG. 1, and col. 3, line 39-67, "a tunable receiver 108", "transmitter 110", "base station 102", "base station 102 sends an

Art Unit: 2687

appropriate signal on a control channel for . . . the mobile station 104”), a communication state determination unit configured to determine a communication state of the transmitter/receiver (col. 6, lines 7-17, “Predicting when the user needs to communicate”, note that a predicting when the user needs to communicate unit (a communication state determination unit) exist which predicts (determines) when the user needs to communicate, and consequently determines a communication state of the transmitter/receiver (e.g., predicting a communication state indicating that the user is in communication), a movement state measurement unit configured to measure a movement state of the mobile terminal (col. 5, line 43 through col. 6, line 7, “Predicting user movement”, note that a predicting user movement unit (a movement state measurement unit) exists which predicts the mobility of the user, and consequently measures a movement state of the mobile terminal), and a reception period controller (FIG. 1, and col. 4, line 30 through col. 5, line 11, “controller 116”, “battery control 122”, note that the controller 116 and the battery control 122 combined together is the reception period controller) configured to control a reception period for receiving a control signal transmitted from the base station by the transmitter/receiver, based on a communication state determination result determined by the communication state determination unit and a movement state measurement result measured by the movement state measurement unit (FIGS. 2-6, and col. 5, line 43 through col. 7, line 60, “having a different periodicity”, “a predetermined time period, such as 1.5 seconds”, “the mobile station again powers up to search for a control channel”, “low power mode”, “continuous sleep mode”, note that predicting when the user needs to communicate allows the mobile station to enter a very low power mode or continuous sleep mode, and in the continuous sleep mode, in distinction to the sleep mode, the mobile station does not wake up periodically to detect a control

Art Unit: 2687

channel, but it remains largely powered down for an extended period of time, and after the extended period of time elapses, the mobile station again powers up to search for a control channel, hence the communication state determination result (very low power mode or continuous sleep mode) determined by the communication state determination unit (predicting when the user needs to communicate unit) prompts the reception period controller to control a reception period for receiving a control signal from the base station. Further note that predicting user movement allows the mobile station to eliminate unnecessary registration to other base stations when the mobile station is already locked to its current base station, and consequently decreasing the reception period for receiving control signals from other base stations, hence, mobility of the mobile terminal (movement state measurement result) which resulted from predicting user movement (movement state measurement unit) prompted the reception period controller to control a reception period for receiving a control signal transmitted from the base station by the transmitter/receiver).

Referring to claim 2, Pombo discloses the mobile terminal of Claim 1, further comprising a reception state measurement unit configured to measure a reception state of the signal from the base station received by the transmitter/receiver (col. 5, lines 24-42, "Predicting user location", note that predicting user location allows the mobile station 104 to only search for control channels broadcast by base stations in the locations where the user will be present. Further note that this prediction of the user location would also predict the signal reception capability of the mobile station, hence a predicting user location unit exists and this prediction user location unit is the reception state measurement unit which inherently measures a reception state of the signal

Art Unit: 2687

from the base station according the location of the mobile station), wherein the reception period controller controls the reception period based on the communication state determination result, the movement state measurement result, and a reception state measurement result measured by the reception state measurement unit (FIGS. 2-6, and col. 5, line 24 through col. 7, line 60, “having a different periodicity”, “a predetermined time period, such as 1.5 seconds”, “the mobile station again powers up to search for a control channel”, “low power mode”, “continuous sleep mode”, note that predicting when the user needs to communicate allows the mobile station to enter a very low power mode or continuous sleep mode, and in the continuous sleep mode, in distinction to the sleep mode, the mobile station does not wake up periodically to detect a control channel, but it remains largely powered down for an extended period of time, and after the extended period of time elapses , the mobile station again powers up to search for a control channel, hence the communication state determination result (very low power mode or continuous sleep mode) determined by the communication state determination unit (predicting when the user needs to communicate unit) prompts the reception period controller to control a reception period for receiving a control signal from the bases station. Further note that predicting user movement allows the mobile station to eliminate unnecessary registration to other base stations when the mobile station is already locked to its current base station, and consequently decreasing the reception period for receiving control signals from other base stations, hence, mobility of the mobile terminal (movement state measurement result) which resulted from the predicting user movement (movement state measurement unit) prompted the reception period controller to control a reception period for receiving a control signal transmitted from the base station by the transmitter/receive. Furthermore note that predicting user location

Art Unit: 2687

allows the mobile station to only search for control channels broadcast by base station in the location where the user will be present, and the mobile station can reduce the time during which the receiver must be powered up, and the mobile station will search for a base station more frequently around the time and on the channels where the base was previously found and less frequently otherwise, hence, the reception state measurement result (user location) measured by the reception state measurement unit prompts the reception period controller to control the reception period as well).

Referring to claim 3, Pombo discloses the mobile terminal of Claim 2, wherein the reception state measurement unit measures a difference in reception states of signals from a plurality of base stations received by the transmitter/receiver, as the reception state (col. 5, lines 24-42, "Predicting user location", note that predicting user location inherently involves a plurality of base station in order to measure the signal strength from surrounding base stations so that the location of the mobile station is determined with reference to the base stations in the vicinity, hence, the reception state measurement unit measures a difference in reception states of signals from a plurality of base stations received by the transmitter/receiver, as the reception state.

Referring to claim 5, Pombo discloses a control device (Abstract, FIG. 1, and col. 2, lines 52-67 "a portable communication device (104)") comprising a communication state determination unit configured to determine a communication state of a transmitter/receiver transmitting/receiving a signal to/from a base station of a mobile terminal (FIG. 1, col. 3, line 39-

Art Unit: 2687

67, and col. 6, lines 7-17, “a tunable receiver 108”, “transmitter 110”, “base station 102”, “base station 102 sends an appropriate signal on a control channel for . . . the mobile station 104”, “Predicting when the user needs to communicate”, note that a predicting when the user needs to communicate unit (a communication state determination unit) exist which predicts when the user needs to communicate, and consequently determines a communication state of the transmitter/receiver (e.g., predicting a communication state, which indicates the user would communicate), a movement state measurement unit configured to measure a movement state of the mobile terminal (col. 5, line 43 through col. 6, line 7, “Predicting user movement”, note that a predicting user movement unit (a movement state measurement unit) exists which predicts the mobility of the user, and consequently measures a movement state of the mobile terminal), and a reception period controller (FIG. 1, and col. 4, line 30 through col. 5, line 11, “controller 116”, “battery control 122”, note that the controller 116 and the battery control 122 combined together is the reception period controller) configured to control a reception period for receiving a control signal transmitted from the base station by the transmitter/receiver, based on a communication state determination result determined by the communication state determination unit and a movement state measurement result measured by the movement state measurement unit (FIGS. 2-6, and col. 5, line 43 through col. 7, line 60, “having a different periodicity”, “a predetermined time period, such as 1.5 seconds”, “the mobile station again powers up to search for a control channel”, “low power mode”, “continuous sleep mode”, note that predicting when the user needs to communicate allows the mobile station to enter a very low power mode or continuous sleep mode, and in the continuous sleep mode, in distinction to the sleep mode, the mobile station does not wake up periodically to detect a control channel, but it remains largely powered down for an

extended period of time, and after the extended period of time elapses , the mobile station again powers up to search for a control channel, hence the communication state determination result (very low power mode or continuous sleep mode) determined by the communication state determination unit (predicting when the user needs to communicate unit) prompts the reception period controller to control a reception period for receiving a control signal from the bases station. Further note that predicting user movement allows the mobile station to eliminate unnecessary registration to other base stations when the mobile station is already locked to its current base station, and consequently decreasing the reception period for receiving control signals from other base stations, hence, mobility of the mobile terminal (movement state measurement result) which resulted from the predicting user movement (movement state measurement unit) prompts the reception period controller to control a reception period for receiving a control signal transmitted from the base station by the transmitter/receive).

Referring to claim 6, Pombo discloses the control device of claim 5, further comprising a reception state measurement unit configured to measure a reception state of the signal from the base station received by the transmitter/receiver (col. 5, lines 24-42, "Predicting user location", note that predicting user location allows the mobile station 104 to only search for control channels broadcast by base stations in the locations where the user will be present. Further note that this prediction of the user location would also predict the signal reception capability of the mobile station, hence a predicting user location unit exists and this prediction user location unit is the reception state measurement unit which inherently measures a reception state of the signal from the base station according the location of the mobile station), wherein the reception period

Art Unit: 2687

controller controls the reception period based on the communication state determination result, the movement state measurement result, and a reception state measurement result measured by the reception state measurement unit (FIGS. 2-6, and col. 5, line 24 through col. 7, line 60, “having a different periodicity”, “a predetermined time period, such as 1.5 seconds”, “the mobile station again powers up to search for a control channel”, “low power mode”, “continuous sleep mode”, note that predicting when the user needs to communicate allows the mobile station to enter a very low power mode or continuous sleep mode, and in the continuous sleep mode, in distinction to the sleep mode, the mobile station does not wake up periodically to detect a control channel (inherently from a base station), but it remains largely powered down for an extended period of time, and after the extended period of time elapses, the mobile station again powers up to search for a control channel, hence the communication state determination result (very low power mode or continuous sleep mode) determined by the communication state determination unit (predicting unit) prompts the reception period controller to control a reception period for receiving a control signal from the bases station. Further note that predicting user movement allows the mobile station to eliminate unnecessary registration to other base stations when the mobile station is already locked to its current base station, and consequently decreasing the reception period for receiving control signals from other base stations, hence, mobility of the mobile terminal (movement state measurement result) which resulted from the predicting user movement (movement state measurement unit) prompts the reception period controller to control a reception period for receiving a control signal transmitted from the base station by the transmitter/receive. Furthermore note that predicting user location allows the mobile station to only search for control channels broadcast by base station in the location where the user will be

present, and the mobile station can reduce the time during which the receiver must be powered up, and the mobile station will search for a base station more frequently around the time and on the channels where the base was previously found and less frequently otherwise, hence, the reception state measurement result (user location) measured by the reception state measurement unit prompts the reception period controller to control the reception period as well).

Referring to claim 7, Pombo discloses a communication system (Abstract, “A method and apparatus reduces power consumption in a portable communication device”) comprising a base station (FIG. 1, and col. 2, lines 52-67, “a base station 102”) and a mobile terminal (Abstract, col. 2, lines 52-67, and FIG. 1 “a portable communication device (104)”) comprising a transmitter/receiver configured to transmit/receive a signal to/from the base station (FIG. 1, and col. 3, line 39-67, “a tunable receiver 108”, “transmitter 110”, “base station 102”, “base station 102 sends an appropriate signal on a control channel for . . . the mobile station 104”), a communication state determination unit configured to determine a communication state of the transmitter/receiver (col. 6, lines 7-17, “Predicting when the user needs to communicate”, note that a predicting unit (a communication state determination unit) exist which predicts when the user needs to communicate, and consequently determines a communication state of the transmitter/receiver (e.g., predicting a communication state, which indicates the user would communicate), a movement state measurement unit configured to measure a movement state of the mobile terminal (col. 5, line 43 through col. 6, line 7, “Predicting user movement”, note that a predicting user movement unit (a movement state measurement unit) exists which predicts the mobility of the user, and consequently measures a movement state of the mobile terminal), and a

Art Unit: 2687

reception period controller (FIG. 1, and col. 4, line 30 through col. 5, line 11, “controller 116”, “battery control 122”, note that the controller 116 and the battery control 122 combined together is the reception period controller) configured to control a reception period for receiving a control signal transmitted from the base station by the transmitter/receiver, based on a communication state determination result determined by the communication state determination unit and a movement state measurement result measured by the movement state measurement unit (FIGS. 2-6, and col. 5, line 43 through col. 7, line 60, “having a different periodicity”, “a predetermined time period, such as 1.5 seconds”, “the mobile station again powers up to search for a control channel”, “low power mode”, “continuous sleep mode”, note that predicting when the user needs to communicate allows the mobile station to enter a very low power mode or continuous sleep mode, and in the continuous sleep mode, in distinction to the sleep mode, the mobile station does not wake up periodically to detect a control channel (inherently from a base station), but it remains largely powered down for an extended period of time, and after the extended period of time elapses , the mobile station again powers up to search for a control channel, hence the communication state determination result (very low power mode or continuous sleep mode) determined by the communication state determination unit (predicting when the user needs to communicate unit) prompts the reception period controller to control a reception period for receiving a control signal from the bases station. Further note that predicting user movement allows the mobile station to eliminate unnecessary registration to other base stations when the mobile station is already locked to its current base station, and consequently decreasing the reception period for receiving control signals from other base stations, hence, mobility of the mobile terminal (movement state measurement result) which resulted from the predicting user

Art Unit: 2687

movement (movement state measurement unit) prompts the reception period controller to control a reception period for receiving a control signal transmitted from the base station by the transmitter/receive).

Referring to claim 8, Pombo discloses a communication method (Abstract, "A method and apparatus reduces power consumption in a portable communication device") comprising determining a communication state of a mobile terminal transmitting/receiving a signal to/from a base station (col. 6, lines 7-17, "Predicting when the user needs to communicate", note that a predicting when the user needs to communicate unit (a communication state determination unit) exist which predicts (determines) when the user needs to communicate, and consequently determines a communication state of the transmitter/receiver (e.g., predicting a communication state, which indicates the user would communicate), measuring a movement state of the mobile terminal (col. 5, line 43 through col. 6, line 7, "Predicting user movement", note that a predicting user movement unit (a movement state measurement unit) exists which predicts the mobility of the user, and consequently measures a movement state of the mobile terminal), and controlling (FIG. 1, and col. 4, line 30 through col. 5, line 11, "controller 116", "battery control 122", note that the controller 116 and the battery control 122 combined together is the controller, hence the method comprises controlling function) a reception period for receiving a control signal transmitted from the base station by the mobile terminal, based on a communication state determination result and a movement state measurement result (FIGS. 2-6, and col. 5, line 43 through col. 7, line 60, "having a different periodicity", "a predetermined time period, such as 1.5 seconds", "the mobile station again powers up to search for a control channel", "low power

Art Unit: 2687

mode”, “continuous sleep mode”, note that predicting when the user needs to communicate allows the mobile station to enter a very low power mode or continuous sleep mode, and in the continuous sleep mode, in distinction to the sleep mode, the mobile station does not wake up periodically to detect a control channel (inherently from a base station), but it remains largely powered down for an extended period of time, and after the extended period of time elapses, the mobile station again powers up to search for a control channel, hence the communication state determination result (very low power mode or continuous sleep mode) determined by the communication state determination unit (predicting when the user needs to communicate unit) prompts the reception period controller to control a reception period for receiving a control signal from the bases station. Further note that predicting user movement allows the mobile station to eliminate unnecessary registration to other base stations when the mobile station is already locked to its current base station, and consequently decreasing the reception period for receiving control signals from other base stations, hence, mobility of the mobile terminal (movement state measurement result) which resulted from the predicting user movement (movement state measurement unit) prompts the reception period controller to control a reception period for receiving a control signal transmitted from the base station by the transmitter/receive).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,799,256, Pombo et al., in view of U.S. Patent No. 6,876,863 B1, Schroeder et al.

Referring to claim 4, Pombo discloses the mobile terminal of Claim 1.

Pombo does not specifically disclose the mobile terminal of Claim 1, wherein the communication state determination unit determines whether the transmitter/receiver is **in communication or stand-by**, as the communication state.

Schroeder discloses a system involving a portable radio telephone handset which includes teaching of different communication states wherein a cellular phone is in communication (active mode) or stand-by (stand-by mode), as the communication state (col. 1, lines 50-60, "stand-by mode", "active mode", "a stand-by mode consuming less power than in an active mode").

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the mobile terminal of Pombo by providing the communication state determination unit of Pombo to determine whether the transmitter/receiver is in communication or stand-by, as the communication state, as suggested by Schroeder, for the purpose of efficient usage of the power supply and consequently conserving energy.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sato U.S. Patent No. 5,953,677 discloses a mobile telephone apparatus with power saving comprising radio communication circuits for transceiver and movement detection.

Art Unit: 2687


Alperovich U.S. Patent No. 6,385,469 B1 discloses a method and system for providing battery gapping for mobile stations.

Fujimoto U.S. Patent No. 6,263,200 B1 discloses a radio terminal apparatus equipped with battery power saving function in a mobile communication system.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred A. Casca whose telephone number is (571) 272-7918. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid, can be reached at (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


RAFAEL PEREZ-GUTIERREZ
PATENT EXAMINER

6/9/05